



Appl. No. : 09/185,876  
Filed : November 3, 1998

### AMENDMENTS TO THE SPECIFICATION

Please amend the paragraph beginning on page 18, line 25 as follows:

A

In the speech region, the speech enhancer 400 provides a varying transfer function, owing to the variable gain of the speech expander 408. FIG. 8A shows a family of gain curves in the speech frequency region, corresponding to input signals with different envelope amplitudes. A curve 802 shows the gain of the speech enhancer 400 for speech signals with a relatively low amplitude. The curve 802 is approximately uniform at 0 dB, showing a slight rise to approximately 4 dB in the middle frequency region. A curve 808 shows the gain of the speech enhancer 400 for speech signals with a relatively large amplitude. The curve 808 rises from approximately 0 dB at low frequencies to almost 20 dB at the middle frequencies and falls below 10 dB at high frequencies. A comparison of the curve 802 with the curve ~~802-808~~ shows that for input signals with a relatively higher envelope amplitude, the gain of speech enhancer ~~408-400~~ in the speech frequency region is larger than the gain for signal with a relatively lower envelope amplitude.

Please amend the paragraph beginning on page 19, line 9 as follows:

A2

The speech enhancer 400 advantageously shapes the spectrum of the speech signal according to the amplitude of the signal. FIG 8B show some aspects of the difference between the speech enhancer 400 and a simple volume control. FIG 8B shows the curve 808, corresponding to relatively high volume signals. FIG 8B also shows a curve 810, which is the curve 802 (from FIG 8A) simply increased by a uniform gain of approximately 15 dB. Thus, the curve ~~802-810~~ corresponds to the action of a simple volume control on the curve 802. A hatched region between the curves 810 and 808 represents extra sound energy that would be heard by the listener 114. In other words, the hatched region represents sound that is suppressed by the speech enhancer circuit 400 at relatively high volume levels. This same sound would not be suppressed by a conventional speech system. The extra sound represented by the hatched region is less important for intelligibility, but rather, merely increases the overall sound level, and possible discomfort, perceived by the listener 114. By suppressing sounds in the hatched region, the speech enhancer advantageously improves

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A2 intelligibility while reducing the overall sound output level, and thereby, increasing listener comfort.

Please amend the paragraph beginning on page 23, line 18 as follows:

A3 Returning to the resistor 1020, a second terminal of the resistor 1020 is provided to an inverting input of an op-amp 1024 and to a first terminal of a resistor 1022. A non-inverting input of the op-amp 1024 is provided to ground. An output of the op-amp 1024 is provided to ~~the inverting input of the op-amp 1024~~ a second terminal of the resistor 1022 and to a first terminal of a resistor 1028.

Please amend the paragraph beginning on page 24, line 1 as follows:

A4 A second terminal of the capacitor 1036 and a second terminal of the ~~second terminal of the capacitor 1038~~ are provided to a first terminal of a resistor 1040. The first terminal of the resistor 1040 is provided to an output 1004 and a second terminal of the resistor 1040 is provided to ground.